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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,389	07/29/2003	Atsushi Yokoyama	500.42988X00	3954

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EXAMINER

CAVALLARI, DANIEL J

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/628,389	YOKOYAMA ET AL.	
	Examiner	Art Unit	
	Daniel J. Cavallari	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/29/03, 12/14/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statements (IDS) submitted on 7/29/2003 and 12/14/2005 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Specification

The disclosure is objected to because of the following informalities:

- It is unclear what is meant by the term "grounding preventive member other than a wire-coating" (See Specification, Page 4).
- It is further unclear what is meant by "prevented from grounding". The specification continuously uses the term "grounding" however no ground is present in the figures. It appears the applicant was referring to a "ground fault", or perhaps more broadly as a "fault" or "short circuit".
- Reference number 35 (See Specification, Page 7 & 17) is not present in the drawings.
- The second paragraph of page 9 of the specification is unclear and needs clarification. The operation of the generator (6), engine (62), and control device

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(16) is unclear. Specifically, the relationship of the torque and the direction and production of energy between the devices.

- The third paragraph of page 12 of the specification is unclear. It is unclear what is meant by "it is possible to generate a braking force demanded by a driver while regenerating a braking energy as electric energy." Furthermore, the term "regenerating a braking energy" is not understood.
- The first paragraph of page 16 of the specification is not a proper sentence and is unclear "At this time, the electric generator 6 charges the battery 5 with generated electric power to generate braking torque due to electric power generation to generate braking forces for the vehicle." The relationship between the generation of braking torque "due to" electric power generation is unclear.
- It is unclear how the power supply circuit is "insulted" (For example, See Specification, Page 19, Second Paragraph & Page 20, First Paragraph)

Appropriate correction is required.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

Reference number 35 (See Specification, Page 7 & 17) is not present in the drawings.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1, 2, & 3 are objected to because of the following informalities:

- Claim 1 is grammatically incorrect. The sentence "...and power-source connections means provided on the second power supply line and have interrupting function" is grammatically incorrect.
- Claims 2 & 3 are grammatically incorrect. The phrase "and having interrupting function" is grammatically incorrect.
- Furthermore, in regard to Claims 1, 2, & 3, it is unclear what is meant by "interrupting function" as it is unclear what exactly is being "interrupted". The term "interrupting" will be interpreted as best understood to mean "electrical disconnection".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In regard to Claim 4

The limitation of “a grounding preventative member other than a wire-coating...” is not described in the specification. The examiner notes that a wire-covering is disclosed (See Specification, Pages 27-28) however such a member is comprised of a wire-coating “The first power supply line 30 is covered by the grounding preventative member 37 for prevention of grounding, for example, a length of hose made of an insulating material, or a rigid casing...” however the specification fails to disclose such a member other than a wire-coating.

Because such terminology is not common in the field, it is unclear what constitutes a “grounding preventative member other than a wire-coating” therefore no art can be applied to this claim.

In regard to Claim 5

The limitation of “an electric power supply source provided on the second powers supply line...” introduces a third power supply source, as two power sources have already been claimed in Claim 1. Those sources being “an electric generator” (6) and “a storage device” (5). The specification and figures fail to disclose a third power source device attached to the second power supply line (33). Further more, it is unclear what is meant by a “power supply source” having “storage function or power generation function”. A “power supply source” is known in the art as supplying power while a component having “storage function” does not necessarily “supply” power. It is unclear what type of device is being claimed.

Because of the 112 problems with this claim, no art can be applied.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 recites the first and second power supply lines forming an “annular power supply line”. The dictionary definition of “annular” is “of, relating to, or forming a ring” and the dictionary definition of ring is “a circular line, figure, or object” however, the first (30) and second (33) power supply lines of Figure 1 do not form an electrical “ring”. The first power supply line connects the generator and the battery while the second

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power supply line connects the drivers and is connected to the first power supply via switch 23, 22, and 21. It is unclear how the first and second power supplies are connected in an "annular" fashion.

Because of the 112 problems with this claim, no art can be applied.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim 1 rejected under 35 U.S.C. 102(a) as being anticipated by Baumgartner et al. (2002/0158511 A1).

Baumgartner et al. (hereinafter referred to as Baumgartner) teaches:

In regard to Claim 1

- A power supply unit comprising a first power supply line, read on by node 9 and the interconnection between Generator (14) and battery (4) (See Figure 2) and a second power supply line, read on by line (70, 30, & 72) which connect the generator (14) with the electrically driven brake device (10) which generates braking forces (via the brake units 20, 22, 24, & 26) by being electrically driven (See Figure 1 & Paragraphs 10), an electric generator (14) (See Figure 2) and a storage device (4 & 8) and power source connection means (F1-F4) provided on

the second power supply line having electrical disconnection means (See Paragraph 13).

In regard to Claim 3

- A second power-source connection means (R1) provided between the first power supply line (9) and the storage device (8) having an electrical disconnection means (See Paragraph 13) and the power-source connection means (R1) provided on the second power supply line (part 72) and connected to a terminal of the storage device (8) (See figure 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baumgartner et al. and Shi (US 5,654,859).

Baumgartner teaches electric loads (38) other than the electrically driven brake devices and connected to the first power supply line (9) (See Figure 2 & Paragraph 12) connected to the first power supply line (9), power-source connection means (F5) arranged between the first power supply line (9) and the electric loads (38) and a

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power-source control device (12) (See Paragraph 13). Baumgartner also teaches that other current sensitive circuit breaking devices could be used in place of relay (F5) but fails to explicitly teach the control device used for detecting interruption between the electrically driven break and the first power supply line to control connection of the power source connection means (F5).

Shi teaches a fault tolerant power distribution system for use with automobiles (See Column 1, lines 11-21) which incorporates isolation for both power source and load faults (See Column 3, Lines 61-66) in which a switching device, read on by a MOSFETs 411, 412, 421, & 422 (See Figure 4) are controlled by controller (415, 425) and used to isolate a load (106).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the switch as taught by Shi in place of the fuse (F5) in order to protect the circuits (38) of Baumgartner. Baumgartner states that other current sensitive circuit breaking devices could be used (See Paragraph 15) but fails to explicitly teach a switch controlled by the control device. The motivation to combine the switched control isolation device of Shi in place of the fuse in the power system of Baumgartner would have been to provide a means to isolate the circuitry without the inconvenience of replacing fuses after there is a problem.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Beneditz et al. (US 6,856,045) teaches a power distribution system with a redundant architecture.
- Masrura et al. (US 6,728,614) teaches an electrically driven brake device and control apparatus accounting for abnormal power conditions.
- Yokoyama et al. (US 2003/0030322 A1) teaches an electrically driven brake device and control apparatus.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Cavallari whose telephone number is (571)272-8541. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571)272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Cavallari

February 28, 2006



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